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A NEW SPECIES OF THE GENUS *DICERCA* (COLEOPTERA: BUPRESTIDAE)

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While making a revisionary study of the genus *Dicerca* the following new species was recognized. This is described below in order that the name will be available for use elsewhere. Thanks for the loan of material are due all institutions and individuals listed as collections in which paratypes are deposited.

Dicerca frosti Nelson, NEW SPECIES

(FIGS. 1, 2, 3)

Form broad and moderately convex, elytral tips entire, produced; brassy above and below with elytral apices and parts of legs frequently coppery; elytral disk with few weakly raised black areas on intervals; male mesotibia without tooth but slightly dilated on inner margin; female last abdominal sternite tridentate.

MALE HOLOTYPE: Head with front slightly concave, coarsely, rugosely punctured with two irregular, longitudinal, raised areas on vertex; clothed with moderately long, erect, whitish hairs; clypeus broadly, arcuately emarginate; eyes more broadly separated below than above; antenna reaching to middle of lateral pronotal margin, first segment large, elongately globose, second segment rather short and dilated, third slightly longer than second and relatively less dilated, segments serrate from fourth segment distalward, terminal segment rounded at tip.

Pronotal width to length ratio 1.77 to 1, lateral margins gradually expanded from base to widest point just anterior to middle, then strongly convergent to narrowest point at acute anterior angles, anterior margin emarginate, posterior margin sinuate, hind angles rectangular; disk coarsely, rugosely punctured with smooth raised areas as follows; irregular callus on each side midway from lateral margin to midline partially interrupted by oblique, punctate depression and pair of distinct longitudinal callosities separated by punctate median channel which is more depressed posteriorly; punctate areas with short, sparse, recumbent white hairs. Scutellum rounded, surface concave at center.

Elytra with sides slightly sinuate, widest point at middle, then tapering to moderately produced apices, tips bluntly truncate, inner angles slightly produced; surface rugosely punctured, striae distinct, intervals convex with a few elongate, smooth, black areas, intervals carinate toward apices; punctate areas sparsely clothed with short, recumbent, white hairs.

Prosternum rugosely punctured, prosternal process with concave channel, concavity transversely rugose and laterally bordered by prominent smooth carinae, punctured areas densely clothed with moderately long, erect, white hairs; mesosternum

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and metasternum rugosely punctured, more finely so in median concave channel which is laterally bordered by relatively impunctate smooth areas, punctured areas clothed with erect white hairs, especially dense in channel; antecoxal piece with narrow median carina; mesotibia with dilation but no tooth on inner margin.

Abdomen beneath rugosely punctured, especially laterally, more smooth medially, punctures with recumbent white hairs; first sternite concave at base, last sternite emarginate with very short truncate lobe in emargination and with smooth area at middle of base and two longitudinal smooth areas apically.

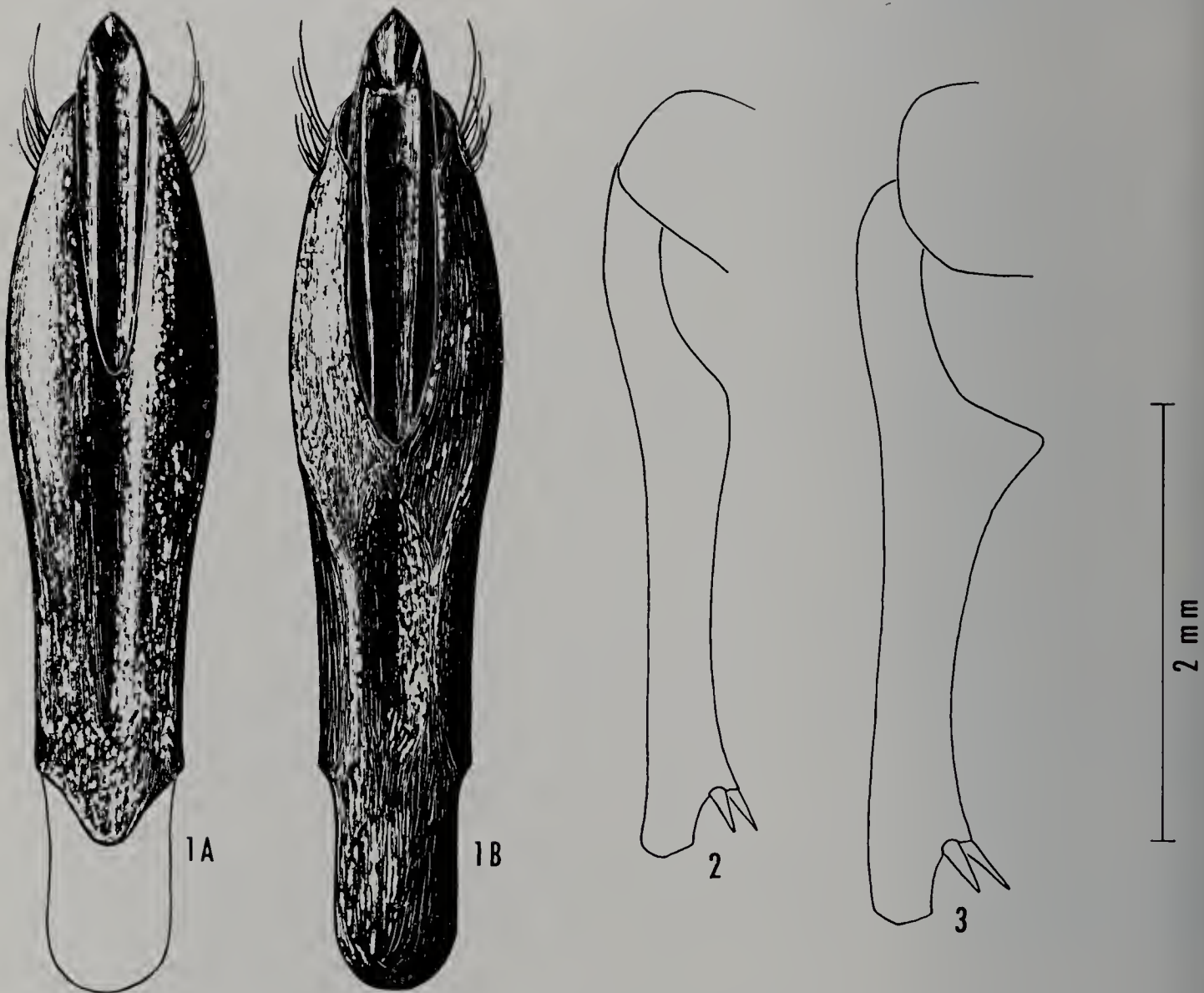
Length: 16.5 mm.; Width: 6.0 mm.

Genitalia (Figs. 1, 2) similar to that of *callosa* Csy. with lateral lobes gradually tapering to apex, median lobe tapering sharply toward apex.

FEMALE ALLOTYPE: Differs from male in being less hairy beneath, lacking dilation on mesotibia and having last abdominal sternite tridentate.

Length: 17.7 mm.; Width: 6.7 mm.

Holotype, male, from OREGON, Harney Co., Steens Mts., June 26, 1922, in collection of the California Academy of Sciences, Entomology, San Francisco. *Allotype*, female, from NEVADA, 10 mi. north of Paradise, June 22, 1941, Ira La Rivers, in collection of the author.



FIGURES 1-2, *Dicerca frosti* new species. 1—Male genitalia, a-dorsal view, b-ventral view. 2—Right male mesotibia.

FIGURE 3, *Dicerca tenebrica* (Kirby). Right male mesotibia.

Paratypes, 153 males and 183 females from: BRITISH COLUMBIA: 1 ♀, Nicola, May 30, 1923, P. N. Vroom; 2 ♂♂, 1 ♀, Salmon Arm, July 2, 1942, August 20, 1928, Hugh B. Leech; 1 ♂, Copper Mountain, June 9, 1928, G. Stace Smith; 1 ♂, Chilcotin, June 18, 1923, E. R. Buckell; 2 ♀♀, Kamloops, June 17, 1942, J. Holland, June 14, 1950, J. Deeble; 1 ♀, Aspen Grove, July 14, 1927, P. N. Vroom; 3 ♀♀, Vernon, June 11, 1923, E. P. Venables, June 8, 1918, W. B. Anderson, July 31, 1923, D. G. Gillespie; 1 ♀, Merritt, September 9, 1924, E. A. Rendell; 1 ♀, Penticton, August 25, 1924, W. Downes; 2 ♀♀, Seton Lake, Lillooet, June 24, 1917, June 5, 1926, J. McDunnough; 1 ♂, 1 ♀, Summerland, June 3, 1932, June 12, 1932, A. N. Gartrell; 1 ♂, Lavington, June 30, 1938, G. H. Hopping; 1 ♂, 4 ♀♀, Midday Valley, Merritt, June 24, 1924, K. F. Auden, July 16, 1926, Wm. Mathers, July 28, 1923, R. Hopping, June 5, 1921, July 12, 1929; 1 ♀, Kay Falls, July 18, 1925, R. Hopping; 1 ♂, Trail, June, 1902, J.M.M.; 1 ♀, 4 mi. west of Princeton, Yale Region, June 3, 1957, E. I. Schlinger. ALBERTA: 1 ♂, Waterton, July 4, 1924, H. L. Seamans; 1 ♀, Blairmore, July 16, 1930, J. H. Pepper. MONTANA: 1 ♀, Two Glacier Lodge, Glacier National Park, July 6, 1938; 2 ♀♀, Helena, July 10, 1907, July 21, 1907. WYOMING: 1 ♂, Jackson Hole National Monument, July 22, 1948, F. M., F. S. and V. S. Beer; 1 ♂, National Park, July 31, Hubbard and Schwarz; 1 ♀, Yellowstone National Park, July 7, 1926, H. E. Burke; 1 ♀, Yellowstone, June 22, 1941, G. P. Mackenzie; 1 ♂, Freemont Lake, July 25, 1947, Bryant. COLORADO: 2 ♀♀, labelled simply COL.; 1 ♀, April 4, 1885; 1 ♀, Black Mesa, July 23, 1921; 1 ♀, Yampa, August, P. Laurent. UTAH: 1 ♂, no further data; 1 ♀, Logan, June 24, 1933, L. Green; 1 ♀, Park City, June 17, Hubbard and Schwarz; 1 ♀, Wasatch Mountains, Mt. Timponogos, 8-9000 feet, June 6, 1926, E. C. Van Dyke; 1 ♀, Aspen Grove, Mt. Timponogos, July 6, 1935; 3 ♂♂, Beaver Creek, Kamas, July 4, 1922, E. P. Van Duzee; 1 ♀, Strawberry Valley, June 7, 1934, E. W. Anthon; 2 ♂♂, Navajo Lake, June 18, 1940, R. M. Bohart. IDAHO: 1 ♀, Little Salmon Meadows, August 11, 1940, F. M. Beer; 1 ♂, Spencer, June 17, 1898; 1 ♂, Beaver Canyon, July 23, Hubbard and Schwarz; 2 ♀♀, Rocky Bar, 6000 feet, June 7, 1937, H. P. Lanchester; 2 ♀♀, McCall, June 24, 1938, H. P. Lanchester; 1 ♀, Ketchum, 6500 feet, July 12, 1929; 1 ♂, 11 mi. northwest of Ketchum, July 4, 1953, E. Hall; 1 ♂, 10 mi. north of Ketchum, July 5, 1940, E. S. McCluskey. OREGON: 1 ♂, 4 ♀♀, Harney Co., Steens Mountains, Fish Lake, July 13, 1953, Roth and Beer, July 9, 1953, July 11, 1961, J. H. Baker; 4 ♂♂, 6 ♀♀, Steens Mountains, June 24, W. J. Chamberlin, June 23, 24, 25, 1922; 1 ♀, Grant Co., Canyon Creek Pass, June 13, 1946, F. M. Beer; 1 ♀, Baker Co., Pine Creek, July 7, 1946, F. M. Beer; 10 ♂♂, 2 ♀♀, Summit Prairie, July 23, 1939, Schuh and Gray; 1 ♂, Blue Mountains, Tollgate Road, June 7, 1938; 1 ♀, Lake Co., Bull Prairie, 7000 feet, July 23, 1932, D. K. Frewing. NEVADA: 1 ♂, same data as allotype, 1 ♂, same place and collector, June 20, 1941; 1 ♀, Lake Tahoe, August (3-10), 1956, A. C. Cole; 1 ♂, 1 ♀, Ruby Mountains, Lamoille, July 11, 1954, A. C. Cole, June 25, 1941, Ira La Rivers; 1 ♂, 1 ♀, Ruby Mountains, Lamoille Canyon, Thomas Canyon Camp Ground, June 20, 1960, C. L. Hogue; 1 ♀, Washoe Co., Thomas Creek, 6000 feet, May 4, 1958, F. D. Parker. CALIFORNIA: 1 ♂, 2 ♀♀, Phillips, August 4, W. J. Chamberlin;

1 ♀, Pyramid Ranger Station, H. E. Burke; 1 ♀, Lundy, 7-8000 feet, July 8, 1910, Wickham; 1 ♂, 1 ♀, Fallen Leaf Lake, July 14, 1925; 1 ♂, Vade, H. E. Burke; 1 ♀, Howland Flat, July 11, 1953, R. L. Lyon and G. R. Struble; 1 ♀, Tallac; 1 ♀, Sierra Co., Weber Lake, June 17, 1940, M. Cazier and T. Aitken; 1 ♂, Plumas Co., 10 mi. south of Johnsville, June 12, 1961, J. S. Buckett; 6 ♂♂, 12 ♀♀, Plumas Co., Buck's Lake, June 23, 1949, L. L. Jensen, J. W. MacSwain and H. A. Hunt, July 1, 1949, A. S. Deal, July 14, 1949, W. W. Middlekauff, J. W. MacSwain and R. C. Bechtel, August 9, 1949, J. W. MacSwain; 1 ♀, Lassen Co., 2 mi. northwest of Blue Lake, July 19, 1947, R. L. Usinger; 1 ♂, Mount Lassen National Park, July 1, 1937, Harold Madsen; 1 ♂, 1 ♀, Lassen National Park, Kelly's Resort, June 13, 14, 1931; 1 ♂, 1 ♀, Modoc Co., Lassen Creek, near Davis Creek, July 27, 1957, W. R. Bauer and J. S. Buckett; 1 ♀, Modoc Co., 5 mi. northeast of Clear Lake, July 10, 1960, D. Q. Cavagnaro; 1 ♀, Upper Echo Lake, 7400 feet, July 6, 1931, E. O. Essig; 1 ♀, Echo Lake, Tahoe, July 8, 1915; 1 ♀, Alpine Co., Hope Valley, July 9, 1948, D. Carter; 1 ♂, Alpine Co., Monitor Pass, July 7, 1959; 1 ♀, Mono Co., Twin Lakes, July, 1930; 1 ♂, 2 ♀♀, Mono Co., Walker River, June 25, 1937; 1 ♂, Mono Co., Leavitt Meadow, July 4, 1960; 1 ♂, 5 ♀♀, 2 mi. west of Leavitt Meadow, July 4, 1960; 1 ♂, Mono Co., Whiskey Creek, 7300 feet, June 24, 1938, Fleschner; 1 ♂, 1 ♀, Mono Co., Pickel Meadow, August 16, 1960, M. E. Irwin, August 11, 1960, A. S. Menke; 1 ♀, Mono Lake, June 3, 1921, Corinne Hilton; Truckee, 6 ♂♂, 5 ♀♀, July 6, 1927, E. P. Van Duzee, July 24, 1909, F. X. Williams, June 18, 1936, E. D. Algert; 2 ♂♂, 4 ♀♀, Trinity Co., Nash Mine, 500 feet, June 13, 1913; 2 ♂♂, 3 ♀♀, Trinity Co., Carrville, 2400-2500 feet, May 22, 26, 30, June 2, 1934, J. W. Seapy; 1 ♂, Trinity Co., Big Flat, Coffee Creek, June 21, 1934; 1 ♂, McCloud, July 6, 1914; 1 ♀, Mammoth Lake, July 15, 1933, R. M. and G. E. Bohart; 1 ♀, Deer Park Inn, July 17, 1898; 1 ♀, Sequoia National Park, June 5-18, 1960, B. McFarlane; 1 ♂, Sequoia National Park, Wolverton, 7000-9000 feet, June 24, 1929; 1 ♂, El Dorado Co., Meyers, 6300 feet, June 28, 1930, A. T. McClay; 1 ♂, 1 ♀, 3 mi. south of Meyers, Highway 89, August 3, 1960, G. H. Nelson; 3 ♂♂, 3 ♀♀, Eldorado Co., 3 mi. west of Luther Pass, Alpine Camp Ground, July 8, 1959; 1 ♀, Inyo Co., Lone Pine, June 20, 1937, L. D. Phillips; 71 ♂♂, 62 ♀♀, Fresno Co., Badger Flat, Huntington Lake, 8000 feet, June 27, 1948, July 23, 25, 1936, July 24-28, 1937, July 20, 21, 26, 27, 1940, all collected by A. T. McClay; 2 ♂♂, Huntington Lake, 7000 feet, July 7, 22, 1919, E. P. Van Duzee; 1 ♂, 2 ♀♀, Nevada Co., Sagehen Creek, near Hobart Mills, June 29, 1962, R. J. Gill. ARIZONA: 1 ♀, Kaibab National Forest, June 17, 1925, M. W. Blackman; 1 ♀, Flagstaff, July 30, 1938, D. J. and J. N. Knull.

Paratypes are deposited in the collections of: American Museum of Natural History, California Academy of Sciences, Canadian National Collection, Colorado State University, Los Angeles County Museum, Museum of Comparative Zoology (C. A. Frost collection), Ohio State University, The Royal Ontario Museum, U. S. National Museum, University of Arizona, University of California at Berkeley, University of California at Davis, University of California at Riverside, University of Idaho, University of Wash-

ington (M. H. Hatch), J. H. Baker, W. F. Barr, F. M. Beer, D. K. Duncan, J. R. Helfer, H. F. Howden, J. N. Knull, Ira La Rivers, Frank H. Parker, Joe Schuh, D. S. Verity, George Walters, R. L. Westcott, and the writer.

HOST: *Dicerca frosti* has been taken in various parts of its range from *Populus tremuloides* Michaux which is probably its host tree.

Dicerca frosti closely resembles *D. callosa* Csy., *D. tenebrica* (Kby.) and *D. hesperoborealis* Hatch and Beer. From *callosa*, *frosti* differs in its relatively wider pronotum (width to length an average ratio of 1.76 to 1 in male, 1.81 to 1 in female while in *callosa* it is 1.56 to 1 in male and 1.61 to 1 in female), seventh antennal segment longer than broad in *frosti* but broader than long in *callosa*. From *tenebrica* it differs in its relatively wider and more coarsely punctured pronotum (in *tenebrica*, the width to length is an average ratio of 1.61 to 1 in male and 1.64 to 1 in female); in its male mesotibia (fig. 3), which has only a dilation on inner side, while that of *tenebrica* (fig. 4) is toothed; and male genitalia (figs. 1, 2) are different. From *hesperoborealis* it differs by lacking the prominent median groove of the antecoxal piece which is characteristic of *hesperoborealis*, by lacking a tooth on male mesotibia, and in shape of male genitalia.

The males of *Dicerca frosti* range from 14.5 to 20.0 mm. in length (Ave.=17.6 mm.) and from 5.0 to 7.2 mm. in width (Ave.=6.4 mm.); the females from 14.5 to 20.7 mm. in length (Ave.=18.7 mm.) and from 5.2 to 7.7 mm. in width (Ave.=6.8 mm.).

This species is gratefully named for the late C. A. Frost who did much to help stimulate the author's interest in beetles.

In Casey's (1909) key to the species of *Dicerca* of America, *D. frosti* does not key out satisfactorily to any species. It runs to either Group II or Group V and has no close similarity to any species in either group.

LITERATURE CITED

CASEY, T. L.

1909. Studies in the American Buprestidae. Proc. Washington Acad. Sci. 10(2): 47-178.



LITERATURE NOTICE

CONTRIBUTO ALLA CONOSCENZA DELLA MORFOLOGIA LARVALE DEL COLEOTTERO DASCILLIDE DASCILLUS CERVINUS L., by Rodolfo Zocchi. Studi Sassaesi (Sezione 3) 9(2):430-445, 10 figs., 1 pl., 1961.—Besides the titular material, the author gives a short review of the position of the family in past classifications and some of his new ideas.